

## **1.0 Description of the Procedure**

Transcranial doppler (TCD) is used for the noninvasive assessment of blood flow to the brain. The noninvasive test uses sound waves to determine the blood flow moving through the arteries to the brain. The study can assist in determining if the arteries are narrowed or blocked. A transducer (probe) placed at the neck or the temple sends an ultrasound signal. The signal is received and transmitted to a microcomputer that calculates how fast the blood is traveling through the artery. A complete TCD study may include assessment of anterior (front) or posterior (back) cerebrovascular circulation. Complete cerebrovascular ultrasound could include both carotid duplex and TCD.

## **2.0 Eligible Recipients**

### **2.1 General Provisions**

Medicaid recipients may have service restrictions due to their eligibility category that would make them ineligible for this service.

### **2.2 Special Provisions**

Early, Periodic Screening, Diagnostic, and Treatment (EPSDT) is a federal Medicaid requirement that provides recipients under the age of 21 with medically necessary health care to correct or ameliorate a defect, physical or mental illness, or a condition identified through a screening examination. While there is no requirement that the service, product or procedure be included in the State Medicaid Plan, it must be listed in the federal law at 42 U.S.C. §1396d(a). Service limitations on scope, amount or frequency described in this coverage policy do not apply if the product, service or procedure is medically necessary.

The Division of Medical Assistance's policy instructions pertaining to EPSDT are available online at <http://www.dhhs.state.nc.us/dma/prov.htm>.

## **3.0 When the Procedure is Covered**

### **3.1 General Criteria**

Medicaid covers TCD when:

1. the procedure is medically necessary.
2. the procedure is individualized, specific, and consistent with symptoms or confirmed diagnosis of the illness or injury under treatment, and not in excess of the recipient's needs.
3. the procedure can be safely furnished, and no equally effective and more conservative or less costly treatment is available statewide.
4. the procedure is furnished in a manner not primarily intended for the convenience of the recipient, the recipient's caretaker or the provider.

### **3.2 Medical Necessity Criteria**

TCD studies of the intracranial arteries are covered for:

1. diagnoses that indicate severe stenosis or occlusion of an intracranial artery
2. vasospasm/vasoconstriction following subarachnoid hemorrhage
3. arterial venous malformation
4. brain death

## **4.0 When the Procedure is Not Covered**

### **4.1 General Criteria**

TCD is not covered when:

1. the recipient does not meet the eligibility requirements listed in **Section 2.0**.
2. the recipient does not meet the medical necessity criteria listed in **Section 3.0**.
3. the procedure duplicates another provider's procedure.
4. the procedure is experimental, investigational or part of a clinical trial.

## **5.0 Requirements for and Limitations on Coverage**

### **5.1 Prior Approval**

Prior approval is not required.

### **5.2 Limitations**

TCD studies are limited to one procedure per date of service by the same or different provider.

1. Technical or professional components of TCD studies cannot to be billed on the same date of service by the same or different provider as the complete procedure.
2. TCD studies are included in the reimbursement for surgery. Therefore, it is cannot be billed separately when performed during a surgical session.

## **6.0 Providers Eligible to Bill for the Procedure**

Providers who meet Medicaid's qualifications for participation and are currently enrolled with the N.C. Medicaid program are eligible to bill for TCD studies when the procedures are within the scope of their practice.

## **7.0 Additional Requirements**

There are no additional requirements.

## 8.0 Policy Implementation/Revision Information

Original Effective Date: April 1, 1992

Revision Information:

Date	Section Updated	Change

## Attachment A: Claims Related Information

Reimbursement requires compliance with all Medicaid guidelines including obtaining appropriate referrals for recipients enrolled in the Medicaid Managed Care programs.

### A. Claim Type

- **CMS-1500 Claim Form**  
Physicians bill services on the CMS-1500 claim form.
- **UB-92 Claim Form**  
Hospital providers bill services on the UB-92 claim form

### B. Diagnosis Codes

Providers must bill the ICD-9-CM diagnosis that most accurately describes the reason for the encounter. Diagnostic codes must be billed at their highest level of specificity.

ICD-9 Diagnosis Code	Description
282.5	Sickle-cell trait
282.60	Sickle-cell disease, unspecified
282.61	Hb-SS disease without crisis
282.62	Hb-SS disease with crisis
282.63	Sickle-cell/Hb-C disease without crisis
282.64	Sickle-cell/Hb-C disease with crisis
282.68	Other sickle-cell disease without crisis
282.69	Other sickle-cell disease with crisis
348.8	Other conditions of the brain
430	Subarachnoid hemorrhage
433.00	Occlusion and stenosis of basilar artery without mention of cerebral infarction
433.01	Occlusion and stenosis of basilar artery with cerebral infarction
433.10	Occlusion and stenosis of carotid artery without mention of cerebral infarction
433.11	Occlusion and stenosis of carotid artery with cerebral infarction
433.20	Occlusion and stenosis of vertebral artery without mention of cerebral infarction
433.21	Occlusion and stenosis of vertebral artery with cerebral infarction
434.00	Cerebral thrombosis without mention of cerebral infarction
434.01	Cerebral thrombosis with cerebral infarction
434.10	Cerebral embolism without mention of cerebral infarction
434.11	Cerebral embolism with cerebral infarction
434.90	Cerebral artery occlusion, unspecified, without mention of cerebral infarction
434.91	Cerebral artery occlusion, unspecified, with cerebral infarction
435.0	Transient cerebral ischemia, basilar artery syndrome
435.1	Transient cerebral ischemia, vertebral artery syndrome
435.2	Transient cerebral ischemia, subclavian steal syndrome
435.3	Transient cerebral ischemia, vertebrobasilar artery syndrome
435.8	Other specified transient cerebral ischemias
435.9	Unspecified transient cerebral ischemia
436	Acute, but ill-defined cerebrovascular disease
437.0	Cerebral atherosclerosis
437.1	Other generalized ischemic cerebrovascular disease
437.2	Hypertensive encephalopathy
437.3	Cerebral aneurysm, nonruptured

<b>ICD-9 Diagnosis Code</b>	<b>Description</b>
437.4	Cerebral arteritis
437.5	Moyamoya disease
437.6	Nonpyogenic thrombosis of intracranial venous sinus
437.7	Transient global amnesia
437.8	Other and ill-defined cerebrovascular disease
437.9	Unspecified and ill-defined cerebrovascular disease
447.1	Stricture of artery
747.81	Anomalies of cerebrovascular system

**C. Procedure Code(s)**

<b>CPT Code</b>	<b>Description</b>
93886	Transcranial doppler study of the intracranial arteries; complete study
93888	Transcranial doppler study of the intracranial arteries; limited study
93890	Transcranial doppler study of the intracranial arteries; vasoreactivity study
93892	Transcranial doppler study of the intracranial arteries; emboli detection without intravenous microbubble injection
93893	Transcranial doppler study of the intracranial arteries; emboli detection with intravenous microbubble injection

**Note:** CPT codes 93888, 93890, 93892, and 93893 are included in 93886. They are not separately reimbursable on the same date of service, same or different provider, same type of service.

**D. Place of Service**

<b>Place of Service Code</b>	<b>Description</b>
11	Office
21	Inpatient Hospital
22	Outpatient Hospital
23	Emergency Room – Hospital
24	Ambulatory Surgical Center
26	Military Treatment Facility
50	Federally Qualified Health Center
51	Inpatient Psychiatric Facility
52	Psychiatric Facility – Partial Hospitalization
53	Community Mental Health Center
55	Residential Substance Abuse Treatment Facility
56	Psychiatric Residential Treatment Center
61	Comprehensive Inpatient Rehabilitation Facility
62	Comprehensive Outpatient Rehabilitation Facility
65	End-State Renal Disease Treatment Facility
71	Public Health Clinic
72	Rural Health Clinic

**E. Modifiers**

Providers are required to follow applicable modifier guidelines.

**F. Reimbursement Rate**

Providers must bill their usual and customary charges.